

## **Transport Methods (CCS-4) Publications March 2004-March 2005**

D. Carrington, D. Pepper, "Indoor Air Pollution Modeling," Chapter 14 of Air Quality Modeling, Theories, Methodologies, Computational Techniques, Available Databases and Software, Vol. II Advanced Topics, Zannetti, P. (editor). (Also a technical report, LA-UR-04-2508, Los Alamos National Laboratory.)

D. Carrington, S. Turner, "Explicit Correction for Material Motion in Radiative Transfer," Los Alamos National Laboratory/CCS Memorandum, CCS-4:05-04, 2005.

D. Carrington, S. Turner, "Verification of Material Motion Correction for the Radiative Transfer Equations," Los Alamos National Laboratory, LA-UR-04-7895, 2004

D. Carrington, V. Mousseau, "Preconditioning and Solver Optimization Ideas for Radiative Transfer," Los Alamos National Laboratory, LA-UR-05-1444, 2005. (Also, ASME Heat Summer Transfer Conference 2005, paper #HT2005-72040.)

J. Densmore, "An Improved Method for Treating Monte Carlo-Diffusion Interfaces," Trans. Am. Nucl. Soc., 91, 139 (2004).

J. Densmore and E. Larsen, "Asymptotic Equilibrium Diffusion Analysis of Time-Dependent Monte Carlo Methods for Grey Radiative Transfer," J. Comp. Phys., 199, 175, 2004.

J. Densmore, T. Urbatsch, T. Evans, and M. Buksas, "Discrete Diffusion Monte Carlo for Grey Implicit Monte Carlo Simulations," in the Proceedings of Int. Top. Mtg. Mathematics and Computation, Supercomputing, Reactor Physics and Nuclear and Biological Applications, Avignon, France, September 12-15, 2005, submitted.

T. Evans, J. Densmore, and T. Urbatsch, "Equilibrium-Diffusion Material Motion Correction for Wedgehog," CCS-4:05-06(U), January 19, 2005.

A. Hungerford, J. Densmore, and M. Buksas, "Compton Scattering in Implicit Monte Carlo," CCS-4:05-14(U), March 17, 2005.

J. Morel and J. Densmore, "A Two-Component Equilibrium-Diffusion Limit," Ann. Nucl. Energy, 31, 2049 (2004).

J. Morel and J. Warsa, "An SN Spatial Discretization Scheme for Tetrahedral Meshes," Nuclear Science and Engineering, submitted in 2004, accepted for publication in 2005.

S. Mosher and F. Rahnema, "A Decoupled Finite Element Heterogeneous Coarse Mesh Transport Method," Transactions of the American Nuclear Society, Vol. 92, June 2005.

R. Ward, R. Baker, and J. Morel, "A Diffusion Synthetic Acceleration Method for Block

Adaptive Mesh Refinement," to be published in Nucl. Sci and Eng.

R. Ward and D.Steiner, "The EPQ Code System for Simulating the Thermal Response of Plasma Facing Components to High Energy Electron Impact," Fus. Sci. and Tech., Vol. 45, n 4, 529-548, 2004.

J. Warsa, "Preconditioning a Parallel, Inexact Block-Jacobi Splitting of the SN Algorithm," accepted for presentation at the 2005 International Conference on Preconditioning Techniques for Large Sparse Matrix Problems in Scientific and Industrial Applications, May 19-21, Emory University, Atlanta, Georgia.